

Strategy Technology & Commercial Integration (ST&CI) LPS Bulletin— Reliability



IPS Control: 10862

Location:

CLG Licensee Refinery

Contact Information:

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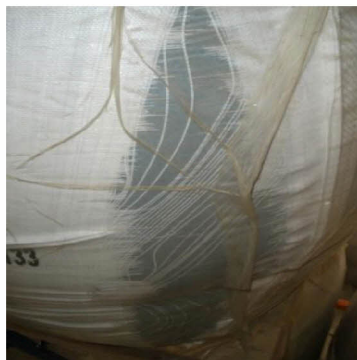
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Reference:

Information



Failure of woven body of a sack



Strap breakage

Tenets of Operations Violated:

1) No Tenets Violated

Incident Description:

During catalyst loading, it was reported that catalyst sacks were splitting upon lifting (see photo). Further inspection of the remaining sacks showed early signs of splits/cracks in the polypropylene body of approximately 30 sacks. These sacks were set aside and repackaged prior to loading.

The sacks had been stored for over two years in a covered structure with partially open walls which left some sacks exposed to direct sunlight at some times of the day.

Investigation Findings:

Plastic sacks, also known as “sacks”, “big bags” or Super Sacks®, are commonly used as packaging for catalysts and other materials used in refineries and chemical plants. Several industry incidents of sack degradation and failure have been recorded over the last several years. Sack failure has included strap breakage, failure of sack stitching, and failure of the woven body of the sack. In the majority of the incidents, the common denominators have been exposure to sunlight during storage and/or storage for >2 years.

Two examples of failed sacks are attached. Note that neither sack shows obvious indications that the sack has been compromised, such as major discoloration.

Recommendations:

- 1) When lifting sacks overhead (for example, when transporting catalyst by crane to the top of a reactor for loading), always clear the area beneath the path of the sack of all personnel. This applies at all times, even new and properly stored sacks could fail.
- 2) Never store sacks in a location where they will be exposed to direct sunlight.
- 3) Transfer contents of sacks that are suspect (that is, known to have been in extended storage or to have been stored exposed to direct sunlight) to flo-bins or new sacks at ground level to avoid lifting old sacks overhead.

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